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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,159	04/09/2001	Toshiya Uemura	P 280087 T36-133137M/KOH	7726

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EXAMINER
LEE, EUGENE

ART UNIT	PAPER NUMBER
2815	

DATE MAILED: 06/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/828,159	UEMURA, TOSHIYA	
	Examiner	Art Unit	
	Eugene Lee	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. *09/365,832* .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *17* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 14 thru 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genriyou 10-151794 JPO in view of Nemoto et al. 6,025,213 in view of Yamada et al. 6,239,490 B1. Genriyou discloses (see, for example, figure [1 (A)]) a semiconductor light-emitting apparatus of a flip chip bonding type comprising a concave/convex lens (transparent base) 101, external electrodes (lead frames) 105, and light emitting chip (light emitting element) 102. In the last paragraph of the applicant's translation, Genriyou states light emitting chips comprising a semiconductor layer formed on insulating substrates such as sapphire. In the same paragraph, Genriyou states the electrode of a positive electrode form on the field side which counters through a semiconductor. The positive and negative electrodes are shown on top of the light emitting chip 102 and each electrode is connected to its respective external electrode 105 by way of conductive wires 103. Genriyou does not disclose first and second bonding pads. However, Nemoto discloses (see, for example, FIG. 15E) a semiconductor light-emitting device package comprising package window portion 32, lead frame 58 and electrode pads (first and second bonding pads) 42. In column 10, lines 66 to column 11, line 4, Nemoto states that the transparent base is bonded to a lead frame through the electrode pads. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the electrode

pads (first and second bonding pads) of Nemoto in Genriyou's invention in order to stably mount the concave/convex lens (transparent base) to the external electrodes (lead frames).

Genriyou in view of Nemoto does not disclose an electrode comprising a light non-transmissible material, said electrode being disposed on an opposite side of said light-emitting layer from said substrate and reflecting light from said light-emitting layer in a direction through said substrate and said base. However, Yamada discloses (see, for example, FIG. 2) a light emitting device comprising a p-contact 34 that forms the electrode 33. In column 4, lines 45-50, Yamada states the p-contact is formed of palladium, a metal. Metals are light non-transmissible. Therefore any light that is generated in a semiconductor layer will reflect off the palladium layer and go towards the opposite direction. In column 6, lines 45-61, Yamada discloses that an electrode made of palladium reduces the voltage required to drive a given current through a Group III-nitride semiconductor device. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the palladium as the electrode (and therefore reflect light from said light-emitting layer in a direction through said substrate and said base) in order to reduce the voltage required to drive a given current in the light emitting chip.

Regarding claims 17 and 18, see the last paragraph of page 3 of applicant's translation wherein Genriyou states translucency base material contains a fluorescent substance.

Regarding claims 19 and 20, see Genriyou wherein a lead frame 105 projects longitudinally around the light emitting chip 102.

Regarding claims 21 and 24, see, column 4, lines 49-51 wherein Yamada states the thickness of the palladium electrode layer is at least .1 nm (1 A) or preferably 200 nm (2000 A).

Regarding claims 22 and 23, see second to last paragraph of applicant's translation wherein Genriyou states a multiplex quantum well structure.

3. Claims 25 thru 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genriyou 10-151794 JPO in view of Nemoto et al. 6,025,213 in view of Yamada et al. 6,239,490 B1 as applied to claims 14-24 above, and further in view of Hide et al. 5,966,393. Genriyou in view of Nemoto in view of Yamada does not disclose a fluorescent material which is adjacent to said substrate and on an opposite side of said substrate from said light-emitting layer. However, Hide discloses (see, for example, FIG. 6) a light emitting device comprising a semiconductor layer 12, base 14 and photoluminescent polymer film (fluorescent material) 34. In column 8, lines 2-18, Hide teaches that the photoluminescent polymer film produces a greater variety of colors in a semiconductor device. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the photoluminescent polymer film (fluorescent material) in order to generate a greater variety of colors in a light emitting chip.

Regarding claim 30, see Genriyou wherein a lead frame 105 extends longitudinally around the light emitting chip 102.

4. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genriyou 10-151794 JPO in view of Nemoto et al. 6,025,213 in view of Yamada et al. 6,239,490 B1 as applied to claims 14-24 above, and further in view of Oshio et al. 6,274,890. Genriyou in view of Nemoto in view of Yamada does not disclose a sealing resin formed over said transparent base and said GaN semiconductor light-emitting device. However, Oshio discloses a projection

(sealing resin) 9 made of a thermosetting resin. In column 6, lines 1-4, Oshio teaches that the projection is used as a lens. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the projection (sealing resin) of Oshio in Genriyou in view of Nemoto in view of Yamada in order to focus the light generated from the light-emitting chip.

Response to Arguments

5. Applicant's arguments with respect to claims 14-38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 703-305-5695. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Eugene Lee
May 29, 2003

EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800